

**RESILIENCE, DECISION-MAKING AND RISK
BEHAVIORS AMONG EARLY ADOLESCENTS
IN PENANG**

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IN PENANG**

by

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LIST OF ABBREVIATIONS

BART	The Balloon Analogue Risk Task
BART-Y	The Balloon Analogue Risk Task-Youth Version
CYRM-28	The Child and Youth Resilience Measure
EPRD	Education Planning and Research Division
JEPeM	Human Research Ethics Committee of USM
SES	Socioeconomic Status
SPM	Malaysian Certificate of Education
SPSS	The Statistical Package for the Social Science
UPSR	Primary School Achievement Test
USM	Universiti Sains Malaysia

KETAHANAN, PEMBUATAN KEPUTUSAN, DAN TINGKAH LAKU BERISIKO DALAM KALANGAN REMAJA AWAL DI PULAU PINANG

ABSTRAK

Ketahanan ialah keupayaan individu untuk memanfaatkan sumber yang sedia ada bagi meningkatkan kemungkinan penyesuaian positif dan mengurangkan kemungkinan gangguan untuk berfungsi semasa menghadapi kesukaran (Goldstein & Brooks, 2012; Masten, 2014, Ungar, 2013). Kajian ini bertujuan untuk mengenal pasti hubungan antara ketahanan dengan tingkah laku berisiko dalam kalangan remaja awal, dengan pembuatan keputusan sebagai pengantara. Pelajar-pelajar Tingkatan 1 dan Tingkatan 2 ($N = 65$) telah direkrut dari sebuah sekolah menengah berkeperluan tinggi di Pulau Pinang. Semua peserta melengkapkan borang soal selidik (*The Child and Youth Resilience Measure*) dan tugas berkomputer (*The Balloon Analogue Risk Task-Youth Version*). Rekod Disiplin Demerit peserta di sekolah digunakan sebagai ukuran tingkah laku berisiko. Kaedah *bootstrapping* dan kod makro untuk *Statistical Package for the Social Science* (SPSS) yang dibina oleh Preacher dan Hayes (2004) telah digunakan sebagai analisis pengantaraan statistik dalam kajian ini. Memandangkan ketahanan merangkumi tiga dimensi, iaitu faktor tahap individu, keluarga, dan konteks, analisis selanjutnya dijalankan ke atas setiap faktor. Dapatan kajian menunjukkan bahawa pembuatan keputusan secara signifikan mengantara hubungan antara ketahanan dengan tingkah laku berisiko dalam kalangan remaja awal. Dapatan yang sama diperolehi untuk faktor tahap individu dan keluarga. Hubungan antara faktor tahap konteks dengan tingkah laku berisiko hanya dapat dijelaskan sebahagiannya oleh pembuatan keputusan. Dapatan kajian ini menjelaskan hubungan antara ketahanan dengan tingkah laku berisiko dalam kalangan remaja awal. Dapatan

kajian ini juga mencadangkan agar remaja diajar kemahiran membuat keputusan sejak awal kerana kemahiran ini mempunyai implikasi yang penting terhadap penglibatan mereka dalam tingkah laku berisiko dalam kehidupan seharian.

RESILIENCE, DECISION-MAKING AND RISK BEHAVIORS AMONG EARLY ADOLESCENTS IN PENANG

ABSTRACT

Resilience is the ability of individuals to tap into the available resources to increase the likelihood of positive adaptation and reduce the probability of disturbances in functioning in the face of adversity (Goldstein & Brooks, 2012; Masten, 2014; Ungar, 2013). The present study sought to determine the relationship between resilience and risk behaviors among early adolescents with decision-making acting as a mediator. Form 1 and Form 2 students ($N = 65$) were recruited at a high-needs school in Penang. All participants completed a self-report questionnaire (The Child and Youth Resilience Measure) and a computerized task (The Balloon Analogue Risk Task-Youth Version). Participants' Disciplinary Demerit Records in school were obtained as the measure of risk behaviors. The bootstrapping method and macro codes for the Statistical Package for the Social Science (SPSS) developed by Preacher and Hayes (2004) were used as the statistical mediation analysis in the present study. Given that resilience encompasses three dimensions, namely individual, family, and contextual level factors, further analyses were conducted on each of them. The results indicated that decision-making significantly mediated the association between resilience and risk behaviors among early adolescents. Similar findings were found for individual and family levels factors. The relationship between contextual level factors and risk behaviors could only be partially explained by decision-making. The findings from the present study presented an explanation for the relationship between resilience and risk behaviors. It suggests adolescents should be taught decision-making skills early on as

decision making has an important implication on their engagement of risk behaviors in daily life.

CHAPTER 1

INTRODUCTION

1.0 Overview

This chapter outlines seven sections to provide a general understanding of the present study. The first section describes the background of the study; the second section states the problems the present study is trying to address; the third and fourth sections list the research questions and research objectives respectively; the fifth section lays out the significance of the study; the sixth section describes the scope of the study; and the final section provides the conceptual definitions that are relevant to the study.

1.1 Background

“Individual X came from a rubber tapping family, which earned less than RM800 per month. He lost his parents at the age of 10. He had to work part-time in the afternoon to help the family. He only started working on his schoolwork around evening. He worked very hard to make sure that he achieved well in every subject. He never skipped any class because he believed that education is the key to fighting poverty and helping his family. He developed a very good relationship with teachers and peers in the schools. He was nominated as the school valedictorian. At the age of 17, he was awarded a full scholarship to further his study in one of the most prestigious universities after scoring 11A+ in the public exam. He made the family proud and everyone had high expectation on him.”

“Individual Y also came from a rubber tapping family, which earned less than RM800 per month. She was under the care of her grandparents after she suffered a parental loss at the age of 12. She stopped going to school and started working. She

had difficulties keeping her job as she always skipped her work. She also seemed to have problems maintaining a good relationship at home and at work as she always had serious arguments with her siblings and co-workers. Sometimes, she never came home and chose to stay overnight at friends' places. Her grandparents tried to give her some advice but never heeded. They did not know what to expect from her anymore."

Individual X is considered more unfortunate than most people are. He experienced adversities from everyday changes, challenges, and serious losses. Fortunately, he was able to adapt well. He is competent, confident and has a strong sense of purpose and future. There is increasing evidence from research showing this human capacity to experience traumatic events (e.g., Holocaust, childhood abuse, and hard-core poverty), but adapt positively (Masten & Wright, 2010; Ungar, 2011). Psychologists have long recognized this capability of humans to overcome adversities and adapt as resilience. It is important to note that resilience does not necessarily mean extraordinary life achievement. It is more about good adaptation developed by an individual in the face of adversity (Schoon, 2006).

In material science, resilience is the capability of a certain material to absorb energy when it is deformed and creates no permanent distortion when the energy is unloaded (Roylance, 2001). In psychological science, resilience bears the similar concept. It is commonly explained as the ability to bounce back despite challenging and threatening circumstances. Hence, the research on resilience typically concerns the risk factors experienced by individuals and the protective factors that facilitate the positive adjustment.

The resilience research emerged around 1970 when a group of researchers noticed a group of "at risk" children for psychopathology adapted positively and developed healthily. This observation steered the health research towards a different

direction (Schoon, 2006). Historically, most studies on at-risk individuals have tried to understand the genesis of psychopathology. The primary focus of the clinical research has been both the risk factors and the consequences of the risk exposure (Masten et al., 2013). Hence, the research effort was primarily on treatment rather than prevention. Different schools of thought started to generate different theories such as psychoanalysis, cognitive-behavioral perspectives and disease-oriented biomedical model that attempted to locate the source of the illness within the individuals (Masten et al., 2013).

Antonovsky (1987), a professor of medical sociology, initiated the shift of focus from a pathogenesis paradigm (pathos = disease) towards an adaptive model, which he coined the term ‘salutogenesis’ (salus = health). Under the salutogenesis paradigm, he looked for the origin of wellness rather than searching for the source of diseases. His wellness model started to call for the social factors to be taken into account in the study of human well-being. The model also shaped the design of social intervention policy intending to facilitate healthy development and promote the chances of following positive chain reactions (Schoon, 2006).

Based on the salutogenesis paradigm, resilience researchers investigate the factors that promoted the adaptive development of individual X; rather than the factors that led to the maladaptive development of individual Y. Resilience is a two-dimensional characteristic based on two fundamental criteria: a) Is there any exposure of risk situation that the person needs to overcome and adapt? and b) Is s/he doing well during and after the risk exposure? In short, the very definition of resilience is the expectation of successful or problematic adjustment after the exposure of adverse living circumstances or significant trauma (Masten et al., 1999).

Referring to the above-mentioned profiles, Masten and Wright (2010) would argue that individual X is a resilient individual as he portrayed the following adaptive characteristics:

1. Social competence: ability to establish positive relationships with both adults and peers
2. Problem-solving skills: ability to plan properly and handle different situations
3. Autonomy: a sense of identity and an ability to act independently
4. A sense of purpose and future: ability to set and achieve goals, educational aspirations, persistence, hopefulness, and a sense of a bright future.

In the present study, decision-making about risk-taking was evaluated. Risk-taking implies the potential for loss and harm but also a chance to obtain some form of reward (Lejuez et al., 2002). Although risk-taking comprises a broad range of behaviors that may yield positive and negative outcomes, those that place an individual at risk for harmful outcomes (e.g., delinquency, substance abuse, underage driving) have received attention in the present study. The present study attempted to better understand how risk-taking behavior correlates with adolescents' resilience. The relationship between these two factors was not much explored in the resilience research. Intuitively, many people would think of decision-making about risk-taking in the context of the big choices that involve high cost and far-reaching consequences. Yet, decision-making encompasses a wide territory from major decisions to routine choices. The routine choices can be unimportant alone, but the cumulative effect of those 'unimportant' decisions can be powerful and influential in shaping our lives. For instance, the individual who always misbehaved during school-time was always penalized by his teachers. Eventually, he lost interest in studying and dropped out of the school. He started to hang out with friends who were also school dropouts in his

neighborhood. He later got a job in a small company, but still had trouble scheduling his time properly, and hence affected work performance and relationships at work. When the company struggled financially and cut jobs, he was terminated and experienced unemployment. In many cases, he would probably attribute his “misfortune” to the social circumstances and bad luck. He might be right in blaming the bigger environment as he had very limited to no control over the financial outlook of the company. However, a close examination of his attitude and behaviors would reveal problems in his daily decision-making. Hence, those appear to be a minor decision on the surface (e.g., misbehaviors) can bring upon far-reaching consequences (e.g., poor work performance and unemployment). Similarly, teenagers who try drugs may have shorter life expectancy than others; drivers who overestimate body tolerance towards the influence of alcohol may later cause “unfortunate” incidents. These examples illustrate that a person who is “down on his/her luck” may be just someone who does some bad decision-making about risk-taking at some point of life. The decision one makes, the small ones as well as the large ones, should not be taken casually as they may potentially shape lives differently.

The present study specifically examines the relationship between adolescents’ resilience, decision-making and risk behaviors. Resilience research has shown that resilience is negatively associated with development of psychopathology and problem behaviors (Masten, 2014; Masten & Wright, 2010; Ungar, 2013; Ungar et al., 2007). As previous literature has repeatedly shown, deviance is part of the adolescents’ behavioral repertoire. It includes arguing with authority, outright refusal to follow instruction and blaming others. Although it is not a rare experience during adolescence, their deviance may cross the line and lead to the violation of rules. Misconducts and risk behaviors at school level remain a concern to different stakeholders, as early onset

of discipline problems in school is a strong predictor of later maladjustment. The prevalence of risk behaviors can be attributed to the way they make decisions (Furby & Beyth-Marom, 1992; Reyna & Farley, 2006; Rivers, Reyna, & Mills, 2008). From a decision-making perspective, risk-taking is the deliberate choice that produces a single event or a series of events. It potentially casts a series of negative chain reactions such as academic underachievement, violence, vandalism, delinquency or even criminal activities (Arnett, 2014; Capaldi & Shortt, 2003). Therefore, adolescents who display risk behaviors and violate rules at a young age are more likely than their peers to exhibit antisocial behaviors when they get older.

1.2 Problem Statement

Statistics has shown that the rate and seriousness of risk behaviors among adolescents in Malaysia have escalated in recent years. Statistics from police departments indicated that the number of arrest for juvenile offenders has increased by more than 50% (from 240 to 370 per 100,000 population size) in a 5-year period (Ministry of Women Family and Community Development & UNICEF Malaysia, 2013). The highest percentage of crime that adolescents involved in was property-related (e.g. theft, house breaking, and robbery) (40%) and drugs-related (30%) (Malaysia Department of Statistics, 2016). Ministry of Health (2012) also reported that 30% of adolescents aged 13-15 have smoking experience and 25% continue smoking after the first experience. The prevalence of alcohol consumption was low (7%), but the percentage of binge drinking among those who have consumed alcohol before was as high as 25% (Ministry of Health, 2012). In terms of sexual behaviors, it is reported that at least one-fifth of youths aged 15 to 19 have engaged in a variety of sexual acts, ranging from kissing to sexual intercourse (Ministry of Health, 2012).

Undeniably, over years of effort, Malaysia has yielded success, such as rising of school enrollment, declination of infant mortality rate, and better opportunities for girls (Taib, 2014; United Nations Malaysia, 2016). Despite the overall gains, many children have fallen even further behind due to the combination of the old challenges and new problems. Despite the existence of the rights, children still suffer from problems such as poverty, homelessness, violence, diseases, and unequal access to education. Many children in Malaysia are still deprived of their rights for healthy development due to unfavorable social circumstances (Malaysia Economic Planning Unit & United Nation Country Team, 2010; Taib, 2014; United Nations Malaysia, 2016). Among all, poverty remains one of the biggest challenges that many children face daily, even though the country has tried to eradicate the situation. Compared to 385 million children worldwide who are living in poverty (27.5% from East Asia Pacific, 35.7% from South Asia, 20.7% from Sub-Saharan Africa, 10.5% from Latin America and Caribbean, 5.6% from Europe and Central Asia), child poverty rate in Malaysia is relatively low (UNICEF, 2016; United Nations Malaysia, 2016). UNICEF (2016) estimated that approximately 160,000 children under the age of 18 in Malaysia still live in extreme poverty without the means to fulfill their own basic needs. However, there is a widening gap between the rich and poor families and the inequalities has important implications on the survival, development and functioning of the children (United Nations Malaysia, 2016). The children from the relatively poor family have little to no control of their lives. They also have very limited resources to shield them from the impact of the risk exposure. Relatively, they are subjected to more hardships in life compared to their counterparts growing up in advantageous circumstances. Those disadvantaged children usually come from families such as

asylum seekers, refugees, illegal immigrants, undocumented families, indigenous and minority communities (Taib, 2014; United Nations Malaysia, 2016).

The circumstances of these children put them at risk for psychopathology but we do not know much about their resilience, decision-making and potential development of risk behaviors. Several studies conducted in Malaysia reported the association between individual, family, community risk factors and negative academic outcomes (e.g., poor academic performances, high dropout rates) (Hashim, Kuldass, & Ismail, 2016; Tan et al., 2012). Previous studies also found the relationship between individual, family, community risk factors and risk behaviors (e.g., underage sexual intercourse, juvenile delinquency, drug abuse) among Malaysian adolescents (Ghani, Zamani, Rahman, Zainal, & Sulaiman, 2008; Hashim et al., 2016; Nasir, Zamani, Yusoff, & Khairudin, 2010). However, little is known about the nature of resilience of at-risk adolescents in the Malaysian context. The study of resilience among adolescents is important as resilience is closely associated with their positive adaptation and development despite the exposure of negative life circumstances. The study of resilience has transformative implications on the policies and programs developed to discourage adolescents from engaging in risk behaviors. Therefore, the present study attempted to study the relationship between the presence of resilience factors and engagement of risk behaviors among adolescents.

The relationship between decision-making and the development of resilience in adolescents is not much studied in the previous research. There is a huge consensus that social developmental context puts many constraints on adolescents and they may have a limited control. Yet, they still construct their own life course through the choices and actions taken within the opportunities and constraints offered by the social circumstances (Elder, 1998). The notion of dynamic interaction implies that

individuals are constantly influencing the context that influences them, and no one level of influence can be considered as the sole cause of the change (Cicchenti & Aber, 1998). Both circumstances and human decisions interact to contribute to the human behaviors and functioning. Decision-making is rarely an important topic in the formal education. Most people acquire their own formula of decision-making through the experimentation of trial and error. Relatively few adolescents have the advantages of being trained formally in decision-making although it is an important component of daily life. The selections that one makes at different stages concern how his life unfolds, along with its twists and turns. Study of decision-making has crucial implications on the interventions that try to reduce adolescent risk behaviors and give them a path out of their undesirable conditions. However, we have limited knowledge on how Malaysian at-risk adolescents make decisions and how their decision-making is related to their engagement in risk behaviors. Thus, the present study tries to explore the role of decision-making as an attempt to understand adolescents' behaviors better.

1.3 Research Questions

The present study attempted to explore the following questions:

1. Is there any relationship between resilience and risk behaviors among early adolescents?
2. Is there any relationship between individual level factors (personal skills, peer support, and social skills) and risk behaviors among early adolescents?
3. Is there any relationship between family level factors (physical caregiving and psychological caregiving) and risk behaviors among early adolescents?

4. Is there any relationship between contextual level factors (religiosity/spirituality, school connectedness, and cultural connectedness) and risk behaviors among early adolescents?
5. What is the effect of decision-making on the relationship between resilience/three subscales and risk behaviors?

1.4 Research Objectives

Building on the above-mentioned research questions, the present study sought to:

1. Determine the relationship between resilience and risk behaviors among early adolescents.
2. Examine the relationship between individual level factors (personal skills, peer support, and social skills) and risk behaviors among early adolescents.
3. Examine the relationship between family level factors (physical caregiving and psychological caregiving) and risk behaviors among early adolescents.
4. Examine the relationship between contextual level factors (religiosity/spirituality, school connectedness, and cultural connectedness) and risk behaviors among early adolescents.
5. Analyze the effect of decision-making on the relationship between resilience/three subscales and risk behaviors.

1.5 Significance of the Study

The empirical knowledge gained from the present study is important for different stakeholders in several ways. It has both direct and indirect influences on different groups in the society. They can make use of the findings from the present study in multiple ways to fit their needs.

First, the present study expands the knowledge about resilience, decision-making and risk behaviors during adolescence. There is limited research conducted in Malaysia on the relationships between these variables. Particularly, previous studies have not looked at the association between decision-making and risk behaviors among adolescents in Malaysia. Thus, the outcomes of the research can help adolescents to make better decisions. Many adolescents progress to adulthood with relatively more hardships due to different reasons. They engage in behaviors that put themselves or others at risk. For a significant number of adolescents, the consequences of their risk behaviors are severe and long-lasting. They may undermine the adolescents' potential to develop into functional adults. Using the knowledge gained in the present study, effective interventions that enhance resilience and teach decision-making can be created. By helping the adolescents during this critical transition period, they will be more motivated and show higher aspiration towards personal achievements. In turn, it may help to develop mechanisms for sustainable mean in bridging the gap between the disadvantaged and the advantaged groups.

Second, the present study can become a model and reference for parents or guardians. When parents have a better understanding of the development of resilience, decision-making and risk behaviors of their children, they are more likely to become more involved in their children's development. Raising parental responsiveness and sensitivity towards their children's development of resilience and decision-making will help to reduce the rate of adolescents' risk behaviors.

Third, empirical knowledge from the present study can help school educators to acquire a better understanding of adolescents to help their students better. When schools have high rates of student misbehaviors, students are more likely to have low academic performances and high dropout rates. Educators are also less likely to have

high morale and motivation. Thus, more use of the effective ways of handling students' issues (e.g., enhancing resilience factors, teaching decision-making) can lead to better students' conducts and academic aspirations, improved relationships and enhanced collaborations among adolescents, parents, and educators.

Fourth, the outcomes of the present study may help the creation of collaborative projects between the private and the public groups for the well-being of at-risk children and adolescents. Being more informed about the issues will make them become more proactive and sensitive towards policies that affect the development of adolescents.

1.6 Scope of the Study

The present study focused on early adolescents' resilience, decision-making about risk-taking and risk behaviors in school settings. Related, but phenomenologically different variables like impulsivity, out-of-school risk behaviors and juvenile crime were not studied.

The population of interest was students who came from a high-needs school in a suburban area in Penang. According to the definition of the Ministry of Education, a high-needs school is identified as a school with low academic performance and a high proportion of students coming from families with low socioeconomic status (Jemaah Nazir, 2010). The high-needs school is categorized as band 6 and 7 due to poor performance in different aspects including school leadership and management, students' performance inside and outside the classrooms, and overall learning environment. The high-needs school usually presents limited strength and multiple disadvantages that require immediate intervention (Jemaah Nazir, 2010).

In the present study, Form 1 and Form 2 students were included (age range 13-14). The students in Form 3 could not be included in the study as the regulation of the Ministry of Education disallows the inclusion of students who are taking public exams in that particular year. Besides, the study involved a self-report measure and a computerized task. As such, students were required to have basic proficiency in the Malay language to complete the tasks. The students with learning disabilities or other special needs were not included in the study. Similarly, those who dropped out of school were not studied as well.

1.7 Conceptual Definitions

The following terms are repeatedly used in the present study, thus, it is crucial to provide the conceptual definitions for the terms with the support of the literature:

1. Resilience is ability of individuals to tap into the available resources to sustain well-being (Ungar et al., 2007). Ungar and Liebenberg (2011) noted that resilience include factors at individual, family and wider contextual levels and is shaped by the interactions between the individuals and their environment. Example: The presence of a responsive adults enables a child to cope well with adversity and have prosocial development.
2. Protective factor is a characteristic that predicts and increases the probability of positive adaptation, despite the exposure of risk (Masten et al., 1990; Robins & Rutter, 1990). Example: Good relationship with primary caregivers helps the children from poor families to adapt and develop healthily.
3. Decision-making is the process of choosing between alternatives for any activity or action that has at least one uncertain outcome. Example: Adolescents decide between attending and skipping school.

4. Risk behaviors are recognized as inappropriate actions that expose people to undesirable consequences that may incur harm and loss. Risk behaviors are generally associated with negative health and well-being (Hurrelmann & Richter, 2006). Example: Tobacco use, drug abuse, school violence, vandalism, and careless driving are risk behaviors that potentially incur harm and loss.
5. Adolescence is generally defined as the developmental phase in the human life cycle that is situated between childhood and adulthood. Adolescence usually begins at the age of 10 to 12 and ends at the age of 18 to 21 years. At this point of development, adolescents experience physical, cognitive, emotional and identity changes (Santrock, 2014). Example: Adolescents attain reasoning capacities that slowly place them as the equal of adults
6. Early adolescence is the opening stage of adolescents (age of 10 – 14 years). The onset is usually marked by the beginning of puberty at the age of 10 to 12 (Earl, Hargreaves, & Ryan, 2013). Example: Both male and female adolescents experience adult-like body chemistry, cognition, and physique for the first time.

CHAPTER 2

LITERATURE REVIEW

2.0 Overview

This chapter focuses on the review of the previous studies that are relevant to the present study. The review of the literature is divided into seven major sections. The first section reviews the resilience in adolescents; the second section reviews the risk behaviors among adolescents; the third section reviews the decision-making in adolescents; the fourth section and fifth sections discuss the theoretical and conceptual frameworks; and the final section presents research hypotheses in the present study.

2.1 Resilience in Adolescence

Resilience researchers (Masten, 2014; Ungar, 2004, 2013; Ungar & Liebenberg, 2011) argued that resilience is the “outcome of negotiation” between individuals and their environment for the resources to define themselves as healthy, amidst condition collectively viewed as adverse. “Adversity”, “resources” and “healthy” are the key components in this definition and they are commonly referred as “risk factors”, “protective factors” and “positive outcome” respectively in resilience research (Masten, 2014; Schoon, 2006; Ungar et al., 2007). Processes that occur during childhood and adolescence can either contribute to risk or assist in individuals’ development. Risk or adversity is the characteristic, event or experience that elevates the probability of an undesirable outcome. It reduces the probability of positive adaptation or development. Risk factors can be specific experience, single event, acute trauma, or accumulation of negative life events. Risk factors can operate at the individual, family, and contextual levels to derail normal development and render individuals’ failure to thrive (Alvord & Grados, 2005; Masten & Wright, 2010; Schoon,

2006; Ungar, 2005, 2012). Research indicated that the effects of risk are not universal as some risks are more detrimental than others. A similar risk may affect development in different manners, including brain development, cognition, emotion, behavioral regulation, personality, and motivation. It should be viewed as the disturbances in the human functioning. The variability in term of risk is dependent on an individual's vulnerability and available resources to counterbalance it (Masten, 2014, 2014).

On the other hand, protective factors are the characteristics that predict and increase the probability of positive adaptation, despite the exposure of risk factors. The key function of protective factors is to cushion the negative impact of a risk or the individuals' exposure to risk (Alvord & Grados, 2005; Masten, 2001; Robins & Rutter, 1990). Hence, it can reduce the likelihood of negative chain reactions; provide resources to promote self-esteem and self-efficacy (Schoon, 2006). Similar to risk factors, the impact of protective factors is not universal and cannot be ranked in any particular order. Research has identified the protective factors can operate at three main levels: personal or individual characteristics of an adolescent, characteristics within an adolescent's family, and characteristics in the wider contexts in which an adolescent might be connected with (Alvord & Grados, 2005; Schoon, 2006; Ungar et al., 2007).

Risk and protective factors are not a typical continuum of the polar opposition (Luthar, Sawyer, & Brown, 2006; Theron, Liebenberg, & Ungar, 2015; Ungar & Liebenberg, 2011). One factor can act as a risk and protective factor, depending on its level and individual's susceptibility to it. For instance, high intelligence can be a protective factor as it increases the likelihood of positive outcome while low intelligence can be a risk factor as it becomes an impediment for healthy outcomes especially in terms of academic performances. Besides, the polar opposites of each factor are not necessarily the positive or negative ends. For example, low social

economic status is usually a risk factor; nevertheless, the well-beings of adolescents from high social economic status can be threatened by other risk factors uniquely happen in the wealthy family (e.g., authoritarian parents) (Jonathan Cohen, 2006; Levine, 2006).

Thus, the following sections present the factors identified in previous resilience research and how these factors work as processes at three different levels:

- a. Individual characteristics or attributes of the adolescents
- b. Characteristics within the adolescents' family
- c. Aspects of the wider social context in which the adolescents might be connected with.

2.1.1 Individual Level Factors

There is an array of personal attributes that differentiate resilient adolescents from their vulnerable counterparts. The biological and psychological processes happening at the individual level influence the outcome and adaptation of individuals. The factors that happen at the individual level are usually protective, whereas some act as risk factors that reduce the possibility of positive outcomes (Masten & Wright, 2010; Ungar, 2012, 2013).

According to the life course theory, the varied spheres of influence do not exist and act in isolation, they are interrelated and mutually interdependent. The individual characteristics contributing to adolescents' resilience are constantly influenced by, interact with and affect the environment that the adolescents live in (Mandleco, 2000; Schoon, 2006; Theron et al., 2015; Ungar & Liebenberg, 2011). Thus, adolescents with a high level of protective factors at the individual level do not necessarily predict the positive outcome, as s/he cannot neglect the influences from

different levels. For instance, a highly competent adolescent still requires the well-nourished environment in order to achieve the academic success. Therefore, the individual level factors in developing resilience must be understood within the context of co-occurring factors at other levels (Masten, 2014; Schoon, 2006; Ungar, 2013).

2.1.1(a) Personal Skills

Developing a sense of personal competence is one major challenge youths encounter amid their adolescent years. The acquisition and advancement of personal skills during adolescence aid them to acquire self-sufficiency and assume adult accountability. Personal competence usually encompasses self-esteem, coping skills and locus of control. Individual differences in the capabilities of handling and coping with problems are closely related with better outcomes in many domains of human functioning. Individuals are also expected to develop self-esteem, gain control of their own emotion and take responsibility for their actions during adolescence. Numerous studies of resilience have found that developmentally appropriate personal competence are associated with powerful intrinsic motivation system that leads to better human functioning (Masten, 2014; Ungar, 2012; Ungar et al., 2007).

Self-esteem is generally defined as the extent to which adolescents like oneself as a person (Harter, 2015). It reflects person's overall emotional evaluations on his or her own worth. Self-esteem is conceptualized as an influential predictor of individual competence and other outcomes, such as academic achievement, happiness, and interpersonal relationship. However, self-esteem encompasses belief and emotion of one's worth as a person, rather than the objective evaluation of competence. It implies that low self-esteem can be observed in a socially identified competent and successful person (Harter, 2015).

High self-esteem is usually regarded as a protective factor for adolescents. In a study of 235 offspring from 76 families, Lewandowski et al. (2014) found that high self-esteem at an early age is associated with resilience outcome defined by high functioning and less psychiatric disorders. It was found that self-esteem is inversely correlated with stress experienced, but directly correlated with community involvement, the use of adaptive coping strategies and internal locus of control. In the Malaysian context, Kadir, Mustapha, Abdul Mutalib, and Rahim (2014) studied 403 adolescents in the low-income neighborhood and found that self-esteem is positively correlated with the development of positive emotions in adolescents.

While some studies indicated that high self-esteem shields the adolescents from stress, it may be the outcome of the other factors at other levels. The relationship between self-esteem and outcome is not causative but correlational. This implied that while the individual outcome may be the product of self-esteem, the reverse may be true as well. For instance, one might attribute his academic success to high self-esteem, but his self-esteem could be built upon his successful academic achievement as well. Further research found that self-esteem is built upon the self-perceived success rather than objectively evaluated success. Tiêt and Huizinga, (2002) examined the latent constructs of resilience using a sample of 877 high-risk adolescents in the 12 to 16 age range and found that self-esteem can be forged by both antisocial behaviors (e.g., gang involvement, delinquent behaviors, drug use) and socially adaptive adjustment (e.g., better academic performance and parental ratings of adolescent behaviors). The researchers inferred that the adolescents' involvement in the gang and delinquent activities enhance their self-esteem as do academic and behavioral success (Harter, 2015; Li et al., 2002; Tiêt & Huizinga, 2002). Harter (2015) explained that the nature of self-esteem is differentiated by context, and it depends on how individuals perceive

success. Thus, while high self-esteem shields adolescents against the impact of stress, it does not guarantee an objectively evaluated adaptive outcome.

Coping is the conscious cognitive and behavioral efforts to manage both internal and external demands (Compas, 1987; Frydenberg, 2008; Meng & D'Arcy, 2016). The ultimate motive of this effort is to master, minimize, or tolerate the stress and conflict that are deemed arduous (Frydenberg, 2008; Meng & D'Arcy, 2016). The choices that adolescents make in the face of adversity can influence their adjustment as different coping strategies provide different kinds of cushioning for the negative outcomes associated with the risk factors (Frydenberg, 2008; Meng & D'Arcy, 2016). The effectiveness of the coping effort is highly dependent on the type of stress the adolescents encounter and other circumstantial factors.

The Berkeley Stress and Coping Project was launched in 1970 and run for 10 years, the project concluded that there were two main types of coping strategies, problem-focused coping and emotion-focused coping (Lazarus, 2000; Lazarus & Folkman, 1984). Problem-focused coping is characterized by the effort to define the problem, generate a solution and stop whatever that was posing the harm or threat from occurring. While problem-focused coping attends to the situation, emotion-focused coping is orientated towards managing the emotions that are inflicted by the situation. The aim of emotion-focused coping is to lessen, avoid or minimize stress (Frydenberg, 2008; Lazarus & Folkman, 1984; Meng & D'Arcy, 2016). In resilience research, problem-focused coping was found to be positively correlated with the likelihood of higher functioning and resilient outcome. In a cross-sectional study, Dumon Provost (1999) found that problem-focused coping is related to lower depression and higher self-esteem. A recent study by Pilowsky et al. (2004) in 117 children of drug-user

parents found similar results; with children who use problem-focused coping show a lower probability of developing psychopathology.

Nevertheless, in a measure of coping developed by Freydenberg and Lewis (1993), it categorizes coping strategies into productive and non-productive. Productive coping is about trying to come to a resolution on the issue without sacrificing physical health and social connections. Nonproductive coping strategies represent an inability to cope with the situation and lead to denial and evasion of the issue. This division of productive and non-productive coping styles does not provide a clear relationship with the adolescents' resilient outcome. Frydenberg and Lewis (2004) studied over one thousand adolescents from age 11 to 18 and discovered that both self-reported "poor" and "successful" copers adopt both problem-focused and emotion-focused coping strategies. The findings further suggested that the effectiveness and productiveness of coping strategies highly depend on the scale of adversity and the timing of the negative events. It must, however, be noted that neither problem-focused coping nor emotion-focused coping is the best strategies. Although problem-focused coping is generally viewed as the adaptive option, Carver (2011) noted that emotion-focused coping is well suited for the stressors that seem uncontrollable for the adolescents. Temporary avoidance of the situations that inflict negative emotion and experience can help reduce the overwhelming emotional component of the stressor. However, long-term withdrawal from the problem is maladaptive as this interferes adolescents' ability to unlearn the association between the situation and the anxiety symptoms. Adolescents who do not proactively seek adaptive ways to deal with stress will only maintain and prolong the distress provoking situations (Carver & Vargas, 2011; Frydenberg, 2008; Gurung, 2013; Meng & D'Arcy, 2016).

Individuals are not fixated on one specific coping style. One longitudinal study in children and adolescents found that coping practices change over time. Campbell-Sills et al. (2006) discovered inconsistencies in adolescents' use of problem-focused coping and emotion-focused coping. Gurung (2013) supported the changing nature of the coping practices and asserted that coping response is highly affected by the resource available to the young person. The adolescents assess the situation and resources accessible to them. The scarcity of resources increases the likelihood of adolescents to use avoidant coping as an immediate buffer for the stressful situations (Gurung, 2013; Pilowsky, Zybert, & Vlahov, 2004). They will eventually switch to problem-focused coping when the resources are perceived sufficient. This again supported that there is no universally effective or ineffective form of coping.

Locus of control refers to how an individual explains events that happen in life. It encompasses the belief that one can exert a considerable amount of control over the events happen in life (Hou, Doerr, Johnson, & Chen, 2017). Researchers generally categorized the "locus" as either internal or external. An internal locus of control is the belief that an individual can control the events that affect him while an external locus of control is the belief that events happen in life are controlled by other people and environmental factors which one has no control over them. Individuals with a strong internal locus of control believe that events in their lives derive primarily from their own attitudes, decisions, and actions. On the other hand, individuals with a strong external locus of control will always place the responsibilities of decision and actions on factors other than themselves. Thus, individuals with different belief systems can affect the outcomes even though they experience similar level and type of adversity (Hou et al., 2017). For instance, while missing a train, one with an internal locus of control would blame himself for not doing enough preparation beforehand while the

one with an external locus of control would blame the traffic, weather or other people for his lateness.

In resilience research, internal locus of control was shown to be a protective factor and has a positive relationship with other factors such as self-esteem, relationship with significant others and meaningful community involvement (Hou et al., 2017; Luthar, 1991; Luthar & Zigler, 1992; Ungar, 2005). Grossman et al. (1992) found that an internal locus of control serves as the protective factor for an adolescent who is exposed to multiple risks. An internal locus of control increases the likelihood of positive mood, competence, and high self-esteem. Hines, et al. (2005) asserted that “youth play a vital role in influencing the quality and abundance of resources available to them”. Internal locus of control provides the children the determination to be independent, goal-orientated and assertive. Most importantly, adolescents from abusive families who have a high level of internal locus of control are determined to be different from the abusive parents.

Despite having an internal locus of control is usually protective, there is some evidence which showed that external locus of control can be protective under certain situations. Bolger and Patterson (2003) studied close to two thousand maltreated early adolescents over three years and found that those with an external locus of control tend to adapt better. Those who have an external locus of control show competence in developing academic performance and social connection. Researchers (Bolger & Patterson, 2003) asserted that the adolescents’ derivation of benefits from an internal locus of control and external locus of control is dependent on the controllability of the events in adolescents’ lives. Taking a proactive approach in uncontrollable events may be counterproductive as it increases depression. For instance, adolescents who cannot control the maltreatment received from the adults will do better if they blame the

external factors, rather than taking full responsibility for the abusive treatment of others. Thus, internal locus of control is only protective if the proactive approach yields result in controlling the situations. On the other hand, external locus of control is more effective when adolescents cannot identify, control and dampen the effect of risk (Frydenberg, 2008; Gurung, 2013). The protective effects of locus of control rely on the type and context of the adversity.

2.1.1(b) Peer Support

Peers have unique purposes and significance during adolescence. While families continue to be an important influence in adolescents' lives, the influence of friends becomes more prominent. Time spent at home diminishes as adolescents gain more independence and spent more time with peers who are about the same age. Adolescents usually develop bonds with peers at school and neighborhood. In most culture, teens tend to have more conflicts with family members during adolescence and they gradually withdraw from their family (Arnett, 2014; Brown & Bakken, 2011). While parents stay important, intimacy within family drops and teens shift emotional focus from their families to people outside. Children spend a major part of their school time with their peers, and leisure time with their families. However, the involvement of peers during adolescence extends to time after school (e.g., leisure time, weekend, school break) (Arnett, 2014). Thus, the influence of peers is pivotal in shaping adolescents' developmental trajectory.

Peers can influence adolescents' development positively and negatively. The public generally assumes that peers are a negative influence. Peers are often blamed when adolescents engage in wide range of risk behaviors (Brown & Bakken, 2011). Previous studies also reported strong correlation and similarities between adolescents'